

### ABSTRACT

An apparatus for and method of generating normalized soft decision information output from an inner decoder (i.e. equalizer) in a communications receiver. The invention is operative to normalize the soft decision information before it enters ~~[[the]]~~ a soft outer decoder. The normalization is performed using a noise power estimate that is dynamically calculated in response to changing noise statistics on the channel. The normalized soft decision output ~~[[can]]~~ is then ~~[[be]]~~ applied to the soft outer decoder thus realizing maximum performance therefrom. The noise power estimate is derived from the training sequence and/or the data portion of the received signal. Both types of estimates are calculated. A binary or smoothly weighted average is calculated using both types of estimates. The weighting factor is determined based on one or more performance metrics, such as the Signal to Noise Ratio (SNR).